

Work Order ID 158278

Thursday, March 16, 2017 2:37:44 PM

U/R

OK 4/17/17

158278

Page 1

Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH
Start Date: 3/20/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 4/10/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference: SCHEDULED/C

Approvals: Process Plan: **DAS 21 9-89** Date: MAR 16 2017 Tooling: Date: Run Start ***NR1***
QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3887-041	D
IIN-D119-646	C

100

0.00

100

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP D119-646-041 CHG004

Label **DAS 21 9-89** APR 10 2017

110

0.00

110

Skidtubes

Memo

0.00

Skidtubes

1- inspect Mat'L D2500-1-190 for damage
2-Cut tube to length as per dwg D3887 (154.8")
3- Ensure squareness of ends and scribe batch#

1 MB/L 17/03/21

Work Order ID 158278

Thursday, March 16, 2017 2:37:44 PM

158278

Page 2

Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH
Start Date: 3/20/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 4/10/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference: SCHEDULED/C

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	Chemical Conversion Coat per QSI005 4.1	0.00							
120	HandFinish	0.72							
Hand Finishing	Memo								
121	QC7-Inspect Chemical Conversion Coat	0.00							
121	QC	0.00							
Quality Control	Memo								
122	QC5- Inspect part completeness to step on W/O	0.00							
122	QC	0.00							
Quality Control	Memo								

DAS 03 9-89 **17-3-23**

DAS 03 9-89 **17-3-23**

Work Order ID 158278***158278***

Page 3

Thursday, March 16, 2017 2:37:44 PM

Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH
Start Date: 3/20/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 4/10/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference: SCHEDULED/C

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							
130									
Skidtubes									
Skidtubes	Memo	0.00							
	1- Install drill Jig DT9477 drill X-bolt spacer pilot holes using 3/16" drill first side only.								
	2- 2nd side, locating from first saddle holes use DT9861 A/B to drill 2nd side fwd saddle holes.								
	3- 2nd side locating from fwd saddle drill remaining crossbolt spacer holes using DT9477								
	4- Open crossbolt spacer holes to finished size as per dwg D3887 (section D-D and E-E) ***DO NOT OPEN FWD Saddles Holes***								
	5- Deburr, blow out chips from inside of tube.								
	6- Bond web in place as per Dwg D3887 & QSI 015.								
	A/RSikaflex-291 <u>M126652</u>								
	Sikaflex expire date: <u>17-02-04</u>								
	Start: _____ Time: _____								
	Finish: _____ Time: <u>14:30</u>								
	***** (Adhere for 12 hours) *****								

1 17-03-23
DT

Work Order ID 158278***158278***

Page 4

Thursday, March 16, 2017 2:37:44 PM

Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH
Start Date: 3/20/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 4/10/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference: SCHEDULED/C

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

135

QC5- Inspect part completeness to step on W/O

0.00

135

QC

Memo

0.00

Quality Control

DAS
18
3-201 0 17-03-27

Work Order ID 158278

Thursday, March 16, 2017 2:37:44 PM

158278

Page 5

Item ID:	D119-646-041	Accept	*N900040100*	Setup	Start	*NS1*
Revision ID:	URF 15-560				Stop	*NS2*
Item Name:	AW119 Replacement Skidtube with Wearpads - Fits LH or RH					
Start Date:	3/20/2017	Start Qty:	1.00	*1*	Cust Item ID:	
Required Date:	4/10/2017	Req'd Qty:	1.00	*1*	Customer:	
Reference:	SCHEDULED/C					

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	*NR1*
	QC:	Date:	SPC (Y/N):	Date:		Stop	*NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140		0.00							

140

Skidtubes

Skidtubes

Memo

0.00

- 1- Bend FWD end of tube using bender 1 and FOLIO 31 bend prog. D3887.***Must use bending aid DT9544, ensure proper positioning***
- 2- Cut FWD end of tube as per dwg D3887.***Verify measurment***
- 3- Buff out marks left from bending
- 4- Drill FWD cap holes using DT8215. Open FWD & AFT cap holes to 0.208"
- 5- Open FWD saddle holes to finished size as per dwg D3887
- 6- Drill FWD x-bolt spacer holes using DT9816 and open to finished size.(verify measurement)
- 7- Drill Tow ring hole, using DT10047 locate from FWD saddle hole. (verify measurement). Open to finished size.
- 8- Drill 1.87" and 3.74 holes using DT10045 A&B locate from FWD saddle hole. (verify measurement) as per dwg.
- 9- C'sink FWD cap hole as per detail "C"
- 10- Drill holes for wearpads using DT8931, open to 0.297".
- 11- Countersink crossbolt spacer holes, and prepare tube for welding, deburr.
- 12- Deburr and blow out chips from inside of tube.

17-03-27
DT
TW

86170328

Work Order ID 158278

Thursday, March 16, 2017 2:37:44 PM

158278

Page 6

Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH
Start Date: 3/20/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 4/10/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference: SCHEDULED/C

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

150

QC5- Inspect part completeness to step on W/O

0.00

150

QC

Memo

0.00

Quality Control

1 0 17-3-28DAS
19
3-20

Work Order ID 158278

Thursday, March 16, 2017 2:37:44 PM

158278

Page 7

Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH
Start Date: 3/20/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 4/10/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference: SCHEDULED/C

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

160

0.00

160

Skidtubes

Skidtubes

Memo

0.96

NOTE:TACK IN 2 MOST FWD X-BOLT SPACERS AND TEST FIT FWD
GROUND HANDELING FIXTURE,IF FIXTURE FITS WELL THEN
PROCEED. FIXTURE DT10091.

1-Insert crossbolt spacers. Weld as per QSI 004 and Dwg D3887. Remember to
back drill each hole before welding the other side. Use aluminum rod
A/RAluminum Rod M136158

2-Grind cross bolt welds flush as per Dwg D3887. Ensure no pin hole.

3-Counterbore 5/16" x 0.750" deep as per Dwg D3887.

4- Deburr & Scribe batch # on Aft end of tube.

170

QC5- Inspect part completeness to step on W/O

0.00

170

QC

Quality Control

Memo

0.00

TEST FIT USING FIXTURE DT10091.

BE1703-28**17-04-03****DAS
38****APR 04 2017**

Work Order ID 158278

Thursday, March 16, 2017 2:37:44 PM

158278

Page 8

Item ID: D119-646-041
Revision ID: URF 15-560
Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH
Start Date: 3/20/2017 **Start Qty:** 1.00
Required Date: 4/10/2017 **Req'd Qty:** 1.00
Reference: SCHEDULED/C

Accept***N900040100*****Setup Start *NS1*****Stop *NS2*****Cust Item ID:****Customer:**

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1***Stop *NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180 *180* QC Quality Control	QC10- Inspect visual per QSI004- ground welds Memo	0.00 0.00				1			DAS 38 APR 04 2017
190 *190* HandFinish Hand Finishing	Pressure Wash per QSI005 4.3 Memo Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.	0.00 0.44							(x1) 20170404 BEB
200 *200* Powdercoat Powder Coating	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum Memo START TIME: OVEN TEMPERATURE: FINISH TIME:	0.00 0.00							16 1704-4. 3333

★
SEE
Attached

M 136657

2:15
320
2:45

Work Order ID 158278

Thursday, March 16, 2017 2:37:44 PM

158278

Page 9

Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH
Start Date: 3/20/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 4/10/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference: SCHEDULED/C

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	QC3- Inspect Part Finish	0.00							
210									
QC	Memo	0.00							
Quality Control									
220		0.00							
220									
HandFinish	Memo	0.00							
Hand Finishing	1-Install inserts as per Dwg D3887.								
230	QC5- Inspect part completeness to step on W/O	0.00							
230									
QC	Memo	0.00							
Quality Control									

DAS 15 9-89

1 x of all 17/04/05

1 x of all 17/04/05

1 x of all 17-04-05

Work Order ID 158278

Thursday, March 16, 2017 2:37:44 PM

158278

Page 10

Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH
Start Date: 3/20/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 4/10/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference: SCHEDULED/C

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240		0.00							
240 HandFinish Hand Finishing	Memo 1-Install wearpads, gaskets as per Dwg D3887. Put sikaflex in insert before installing bolts and washers A/R Sikaflex-240/-291 <u>M137127</u> Sikaflex expire date: <u>12/12</u> 2-assemble o'ring to plug as per dwg D3492 and apply o'ring lube A/R 55-o'ring lube batch: <u>M135473</u> 3 -Inspect for foreign objects as per QSI 024 4 -Install Aft Cap and seal with Sikaflex. Clean excess adhesive. A/R Sikaflex-240/-291 <u>M137127</u> Sikaflex expire date: <u>12/12</u>	0.00							
245	QC5- Inspect part completeness to step on W/O	0.00							
245 QC Quality Control	Memo	0.00							

See Attached

RTU 548 M135385 18/10/1

DAS
38
9-89

APR 06 2017

Work Order ID 158278

Thursday, March 16, 2017 2:37:44 PM

158278

Page 11

Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH
Start Date: 3/20/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 4/10/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference: SCHEDULED/C

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
250	Wing Walk as per dwg QSI005 4.4 Batch <u>M137092</u>	0.00							
250	HandFinish	0.00							
Hand Finishing	Memo								
251	QC5- Inspect part completeness to step on W/O	0.00							
251	QC	0.00							
Quality Control	Memo								
260	Identify as per dwg & Stock Location <u>22/2</u>	0.00							
260	Packaging	0.00							
Packaging	Memo <u>158491</u>								

DAS
38
9-89
APR 06 2017

Work Order ID 158278

Thursday, March 16, 2017 2:37:44 PM

158278

Page 12

Item ID: D119-646-041 **Accept** ***N900040100*** **Setup Start** ***NS1***
Revision ID: URF 15-560 **Stop** ***NS2***
Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH
Start Date: 3/20/2017 **Start Qty:** 1.00 ***1*** **Cust Item ID:**
Required Date: 4/10/2017 **Req'd Qty:** 1.00 ***1*** **Customer:**
Reference: SCHEDULED/C

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Run Start** ***NR1***
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop** ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270	QC21- Final Inspection - Work Order Release	0.00							
270									
QC	Memo	0.00							
Quality Control									

DAS
21
9-89

APR 10 2017

Picklist Print

Thursday, March 16, 2017 2:37:49 PM

Page 1

Work Order ID: 158278

158278

Parent Item: D119-646-041

D119-646-041

Parent Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 3/20/2017

Required Date: 4/10/2017

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP RevA: New issue DD verified by:EC
10.02.22 per PAR 09-043 EC verified by:DD IPP rev B
DEOD3887-B-1)(ecn 12-675) DD verf:JLM IPP REV:D 12.11.05
chg003 ECN13-534 DD verf:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2500-1-190

Manufactured No

110

Each

53.0000

1

1

D2500-1-190

Ext'n -1" Beam Tube 4"

**

Location

Loc Qty

Loc Code

HALL

53

151612

53

D2579

Manufactured No

140

Each

30.0000

2

2

D2579

Crossbolt Spacer

**

Location

Loc Qty

Loc Code

LG001

30

141711

30

D2855-3

Manufactured No

240

Each

25.0000

2

2

D2855-3

Cap

**

Location

Loc Qty

Loc Code

FP001

25

151614

22

153291

3

X 2

MGG 17/03/21

17-03-28

17/04/15

Picklist Print

Page 2

Thursday, March 16, 2017 2:37:49 PM

Work Order ID: 158278

158278

Parent Item: D119-646-041

D119-646-041

Parent Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 3/20/2017

Required Date: 4/10/2017

Start Qty: 1.00

Required Qty: 1.00

NAS1611-005

Purchased

No

240

Each

274.0000

16

16

NAS1611-005******

all 17/04/05

O-RING

LocationLoc QtyLoc Code

FP001

274

m136184

23

m136192

1

m136377

150

m137017

100

x16

D3492-5

Manufactured

No

240

Each

134.0000

16

16

D3492-5******

all 17/04/05

Plug

LocationLoc QtyLoc Code

FP001

134

133396

8

136396

6

152195

16

152814

3

153738

70

154740

31

x16

D3672-1

Manufactured

No

240

Each

660.0000

2

2

D3672-1******

all 17/04/05

Washer, Phenolic

LocationLoc QtyLoc Code

FG

10

85222

10

FP001

650

112218

4

134785

146

150074

500

x2

Thursday, March 16, 2017 2:37:49 PM

Shop Packet Print

Page 2

Picklist Print

Thursday, March 16, 2017 2:37:49 PM

Page 3

Work Order ID: 158278

158278

Parent Item: D119-646-041

D119-646-041

Parent Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 3/20/2017

Required Date: 4/10/2017

Start Qty: 1.00

Required Qty: 1.00

D3681-1

Manufactured No

160

Each

80.0000

8

8

D3681-1

Spacer

**

BE 17-03-28

Location

Loc Qty

Loc Code

LG001

80

145956

1

151967

4

155381

55

155806

20

8

D3847-1

Manufactured No

240

Each

70.0000

5

5

D3847-1

Wearpad

**

all 17/04/17

Location

Loc Qty

Loc Code

FP001

70

153009

4

153010

11

153011

3

153503

14

155281

12

155776

18

156958

8

B158536

XS

D3847-11

Manufactured No

240

Each

23.0000

1

1

D3847-11

Wearpad

**

all 17/04/17

Location

Loc Qty

Loc Code

FP001

23

151985

4

151986

1

154225

2

154349

4

155829

6

157006

6

B158536

XS

Thursday, March 16, 2017 2:37:49 PM

Shop Packet Print

Page 3

Picklist Print

Thursday, March 16, 2017 2:37:49 PM

Page 4

Work Order ID: 158278

158278

Parent Item: D119-646-041

D119-646-041

Parent Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 3/20/2017

Required Date: 4/10/2017

Start Qty: 1.00

Required Qty: 1.00

D3885-1

Manufactured No

140

Each

15.0000

1

1

D3885-1

Standard Web

**

17-03-23
DL

Location

Loc Qty

Loc Code

LG002

15

152609

15

D3903-1

Manufactured No

160

Each

119.0000

12

12

D3903-1

Spacer

**

17-03-27

Location

Loc Qty

Loc Code

LG001

119

152993

1

154083

9

155755

96

156389

13

ALS4-1032-130

AELS4-1032-130

Purchased

No

220

Each

4,184.000

30

30

AI S4-1032-130

Rivnut

**

17-04-105

Location

Loc Qty

Loc Code

CCK007

4002

M136579

4002

FG

50

FG

M135442

50

FP001

132

M133077

72

M135442

60

X 30

Picklist Print

Page 5

Thursday, March 16, 2017 2:37:49 PM

Work Order ID: 158278

158278

Parent Item: D119-646-041

D119-646-041

Parent Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 3/20/2017

Required Date: 4/10/2017

Start Qty: 1.00

Required Qty: 1.00

AN3C5A

Purchased

No

240

Each

678.0000

32

32

AN3C5A

all 170102

Bolt

Location

Loc Qty

Loc Code

FG	5	
122800	5	
FP001	102	
M136648	102	
OVER002	400	
M136182	100	
M136450	200	
M136579	100	
ST350	171	
M134676	1	
M135442	170	

<i>v32</i>

Picklist Print

Thursday, March 16, 2017 2:37:49 PM

Page 6

Work Order ID: 158278

158278

Parent Item: D119-646-041

D119-646-041

Parent Item Name: AW119 Replacement Skidtube with Wearpads - Fits LH or RH

Start Date: 3/20/2017

Required Date: 4/10/2017

Start Qty: 1.00

Required Qty: 1.00

NAS1149C0332R

Purchased

No

Each

3,179.000

32

NAS1149C0332R

WASHER

all 171010Z

Location

Loc Qty

Loc Code

FP001

284

m136741

46

m136975

238

M136766

132

GA

532

m133284

32

m136444

500

ST260a

2200

m135408

0

m135766

500

m135908

200

m136042

500

m136643

1000

ST266

163

m126319

42

m127831

54

m135466

67

MS24694-C52

Purchased

No

Each

68.0000

2

MS24694-C52

SCREW

all 171010Z

Location

Loc Qty

Loc Code

FP001

64

m135978

64

12

ST285

4

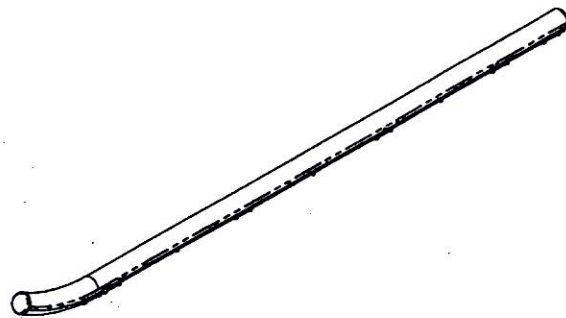
m127059

4

Thursday, March 16, 2017 2:37:49 PM

Shop Packet Print

Page 6



D3887-041 STANDARD SKIDTUBE ASSY WITH WEARPAD (SHOWN)
D3887-043 STANDARD SKIDTUBE ASSY WITH WEARPLATE (SIMILAR)
D3887-045 STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE (SIMILAR)

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3885-1 WEB
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D3887-041 = 32.0 lbs
D3887-043 = 37.0 lbs
D3887-045 = 38.1 lbs
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 8.5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020" DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 10) INSERT D3885-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241-291 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP
- 11) INSERT D3492-045 PLUG ASSY INTO Ø0.197 HOLES (BOTH SIDES OF TUBE)
- 12) USE DART DRILL TEMPLATE DT8931 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARPLATE INSERTS. INSTALL AELS-1032-130 INTO D3887-11 ONLY. INSTALL AN3C5A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241-291.

ITEM	QTY -041	QTY -043	QTY -045	P/N	DESCRIPTION
1	X			D3887-041	STD SKIDTUBE ASSY WITH WEARPAD
2		X		D3887-043	STD SKIDTUBE ASSY WITH WEARPLATE
3			X	D3887-045	STD SKIDTUBE ASSY WITH TRAINING WEARPLATE
10	2	2	2	D2679	CROSS BOLT SPACER
11	2	2	2	D2855-3	CAP
12	16	16		D3492-045	PLUG ASSY
13	2	2	2	D3672-1	PHENOLIC WASHER
14	8	8	8	D3681-1	SPACER
17	5	5		D3847-1	WEARPAD
18	1	1		D3847-11	AFT WEARPAD
19		1		D3847-043	FWD WEARPLATE ASSY
20		1		D3847-045	CENTER WEARPLATE ASSY
21		1		D3847-047	AFT WEARPLATE ASSY
22			1	D3849-041	FWD TRAINING WEARPLATE ASSY
23			1	D3849-043	AFT WEARPLATE ASSY
24	1	1	1	D3885-1	STANDARD WEB
25	1	1		D3887-11	STANDARD SKIDTUBE
26			1	D3887-13	STANDARD SKIDTUBE
27	12	12	12	D3903-1	SPACER
28			16	D3904-1	WASHER
41	30	30		ALS4-1032-130	INSERT
42	32	32	2	AN3C5A	BOLT
43			8	AN3C48A	BOLT
44	32	32		NAS1149C0332R	WASHER (OR AN960C10L)
45			8	MS21043-3	NUT
46	2	2	2	MS24694-C52	SCREW

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT

WITHOUT NOTICE
WORK ORDER

NO. 158278MLT

1703-16

RELEASED

2014 NOV 24

ECN 14-628

UNDER REVIEW

15.04.30 URF15-560 AP

D	REVISED BEND TOLERANCES FOR MANUFACTURABILITY, 135.07 WAS 134.04 (ZN D5-8), ADD 5.07 (ZN C2-8), ADD 116.8 (ZN D5-8), DELETE GASKETS (BOM, SH 2)	DB	13.09.20
C	(SHT 1, PL 2N C2-2, C2-2 C4-2) ITEM 13, QTY 2 WAS 4, ITEM 42, QTY 32 WAS 34, ITEM 44, QTY 30 WAS 32, ADD ITEM 46, MS24694-C52 WAS AN3C5A, 2 PLCS (ZN C1-5, C1-5, B4-7) Ø0.201 CSK Ø0.385 X 100" WAS Ø0.214 THRU, ADDED DETAIL F (ZN C6-5, C6-5, B6-7), ADD ITEM 10, D2579 CROSS BOLT SPACER (ZN C4-1, A6-7)	DB	13.02.19
B	ALS4-1032-130 WAS AELS-1032-130 (ZN C4-1, C5-7, C3-7); ADD DT8931 (ZN A6-1); ADD 134.04 (ZN C4-8); D2855-3 WAS D2679 (ZN D4-1, C7-2, C2-2, C7-3, C2-3, C7-4, C2-4); AN3C5A WAS AN3C48A (ZN C2-2, C2-2, C6-5, C6-5, C6-4, C2-4); Ø0.313 WAS Ø0.328 (ZN C4-5, C4-5, C2-7 & B3-7) REVISED NOTE 4 (ZN B3-7)	RF	09.06.30
A	NEW ISSUE	RF	09.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	DB	KENT, WA	
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D3887	SHEET 1 OF 8
APPROVED		TITLE	SCALE
DE APPR.		A119 STD SKIDTUBE ASSY	NTS
DATE	13.09.20	COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR FOR ANY OTHER PERSON OR ENTITY WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE USA, INC.	

AN3C5A BOLT
D3872-1 PHENOLIC WASHER
NAS1149C0332R WASHER
(1 PER SIDE)

SEAL WITH
SIKAFLEX-241/291

D2855-3 CAP

D3847-11
WEARPAD

1.5
1.5
1.5
2.00 DISTANCE TO D3885-1 WEB, REF

BLACK ANTI-SKID TO 0.5
ABOVE LOCATION RIDGE
TYP

11
Ø0.197
8 PL PER SIDE
REF

AN3C5A BOLT
NAS1149C0332R WASHER
24 PL

PLUG UNUSED INSERTS WITH
AN3C5A BOLT
NAS1149C0332R WASHER
8 PL

D3847-1
WEARPAD
5 PL

D2855-3 CAP

SEAL WITH
SIKAFLEX-241/291

MS24894-C52 SCREW
(1 PER SIDE)

D3887-041 STANDARD SKIDTUBE ASSY WITH WEARPAD
(MAKE FROM D3887-11)

UNDER REVIEW

15.04.30 URF15-560 AP

RELEASED

2014 NOV 24 *ap*

DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	DB	KENT, WA	
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D3887	SHEET 2 OF 8
APPROVED		TITLE	SCALE
DE APPR.		A119 STD SKIDTUBE ASSY	NTS
DATE	13.09.20	COPYRIGHT © 2000 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS UNCLASSIFIED AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR IN ANY MANNER OR FOR ANY REASON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

AN3C5A BOLT
D3872-1 PHENOLIC WASHER
NAS1149C0332R WASHER
(1 PER SIDE)

SEAL WITH
SIKAFLEX-241/291

D2855-3 CAP

D3847-11
WEARPAD

D3847-047
AFT WEARPLATE ASSY

AN3C5A BOLT
NAS1149C0332R WASHER
30 PL

D3847-045
CENTER WEARPLATE ASSY

D3847-043
FWD WEARPLATE ASSY

D3847-1
WEARPAD
5 PL

BLACK ANTI-SKID TO 0.5
ABOVE LOCATION RIDGE
TYP

11
Ø0.197
8 PL PER SIDE
REF

2.00 DISTANCE TO D3885-1 WEB, REF

D2855-3 CAP

SEAL WITH
SIKAFLEX-241/291

MS24694-CS2 SCREW
(1 PER SIDE)

D3887-043 STANDARD SKIDTUBE ASSY WITH WEARPLATE
(MAKE FROM D3887-11)

UNDER REVIEW

15.04.30 URF15-560 AP

RELEASED

2014 NOV 24 *ap*

DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	DB	KENT, WA	
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D3887	SHEET 3 OF 8
APPROVED		TITLE	SCALE
DE APPR.		A119 STD SKIDTUBE ASSY	NTS
DATE	13.09.20	COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE REPRODUCED FOR ANY PURPOSES OR DISCLOSED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

AN3CSA BOLT
D3672-1 PHENOLIC WASHER
NAS1148C0332R WASHER
(1 PER SIDE)

SEAL WITH
SIKAFLEX-241/291

D2855-3 CAP

AN3C46A BOLT
D3904-1 WASHER, 2 PL
MS21043-3 NUT
8 PL

BLACK ANTI-SKID TO 0.5
ABOVE LOCATION RIDGE
TYP

1.5
1.5
1.5

2.00 DISTANCE TO D3885-1 WEB

D3849-043
AFT TRAINING WEARPLATE ASSY

D3849-041
FWD TRAINING WEARPLATE ASSY

1.5 D2855-3 CAP

SEAL WITH
SIKAFLEX-241/291

MS24894-C52 SCREW
(1 PER SIDE)

UNDER REVIEW

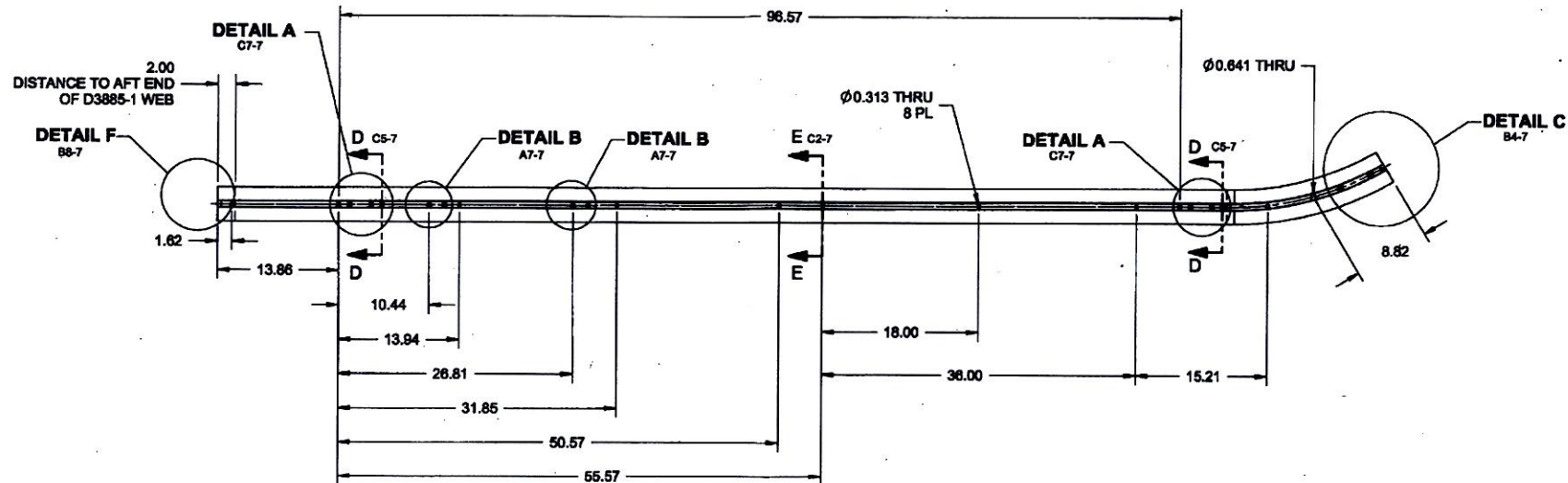
15.04.30 URF15-560 AP

RELEASED

2014 NOV 24 *ap*

D3887-045 STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE
(MAKE FROM D3387-13)

DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	DB	KENT, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. D
MFG. APPR.	<i>[Signature]</i>	D3887	SHEET 4 OF 8
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	A119 STD SKIDTUBE ASSY	NTS
DATE	13.09.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PREPARED AND CONTROLLED BY DART AEROSPACE USA, INC. NO PART OF THIS DOCUMENT IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM DART AEROSPACE USA, INC.	



D3887-13 DRILLING DETAIL
(MAKE FROM D3887-1)

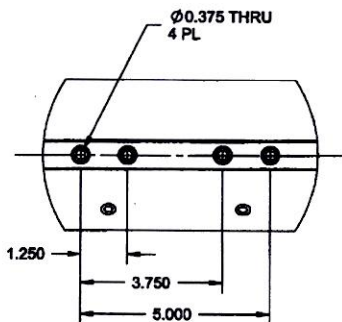
UNDER REVIEW

15.04.30 URF15-560 AP

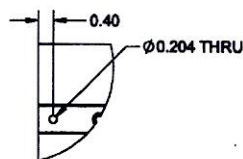
RELEASED

2014 NOV 24 *ap*

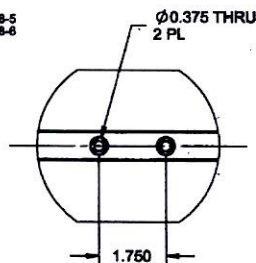
DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	DB	KENT, WA	
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D3887	SHEET 8 OF 8
APPROVED		TITLE	SCALE
DE APPR.		A119 STD SKIDTUBE ASSY	NTS
DATE	13.09.20	COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS UNCLASSIFIED AND IS RELEASED ON THE EXPRESS CONDITION THAT IT IS NOT FOR REUSE FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	



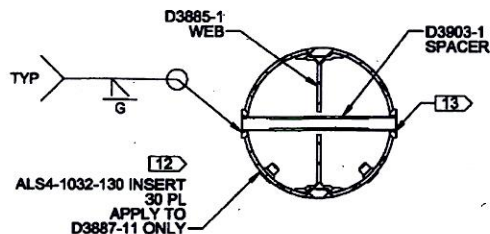
DETAIL A
SCALE 4X
D7-5
C3-5
D7-6
C3-6



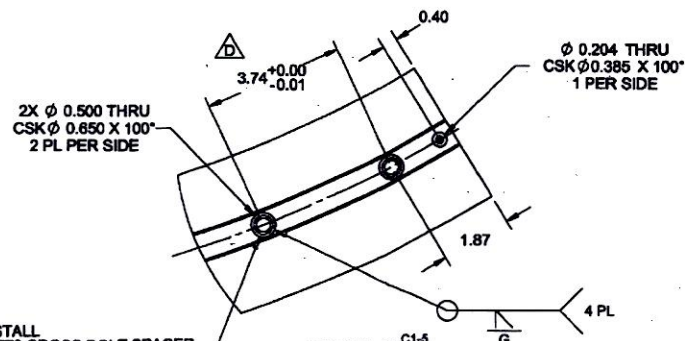
DETAIL F
SCALE 4X
C8-5
C8-6



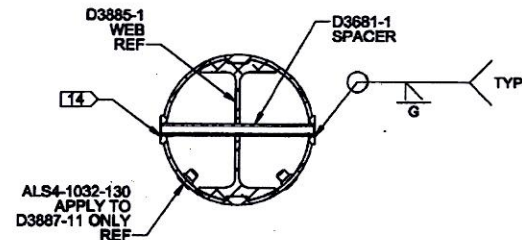
DETAIL B
SCALE 4X
C8-6
C5-5
C8-6
C5-6



SECTION D-D
SCALE 4X
(FOR 12 X Ø0.375 HOLES
PER SKIDTUBE)
C7-5
C3-5
C7-6
C2-6



DETAIL C
TYPICAL
SCALE 4X
C1-5
C1-6



SECTION E-E
SCALE 4X
(FOR 8 X Ø0.313 HOLES
PER SKIDTUBE)
C4-5
C4-6

NOTES:

- 13) AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:
i) CHAMFER HOLES Ø0.475 x 45°
ii) INSERT D3903-1 SPACER
iii) WELD INTO PLACE AND GRIND FLUSH
iv) C'BORE TO 0.313 x 0.75 DEEP
v) DEBURR HOLES

- 14) AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.313 HOLES ONLY:
vi) CHAMFER HOLES Ø0.354 x 45° OR 0.050 DEEP x 45° (BOTH SIDES)
vii) INSERT D3681-1 SPACER
viii) WELD INTO PLACE AND GRIND FLUSH
ix) DEBURR HOLES

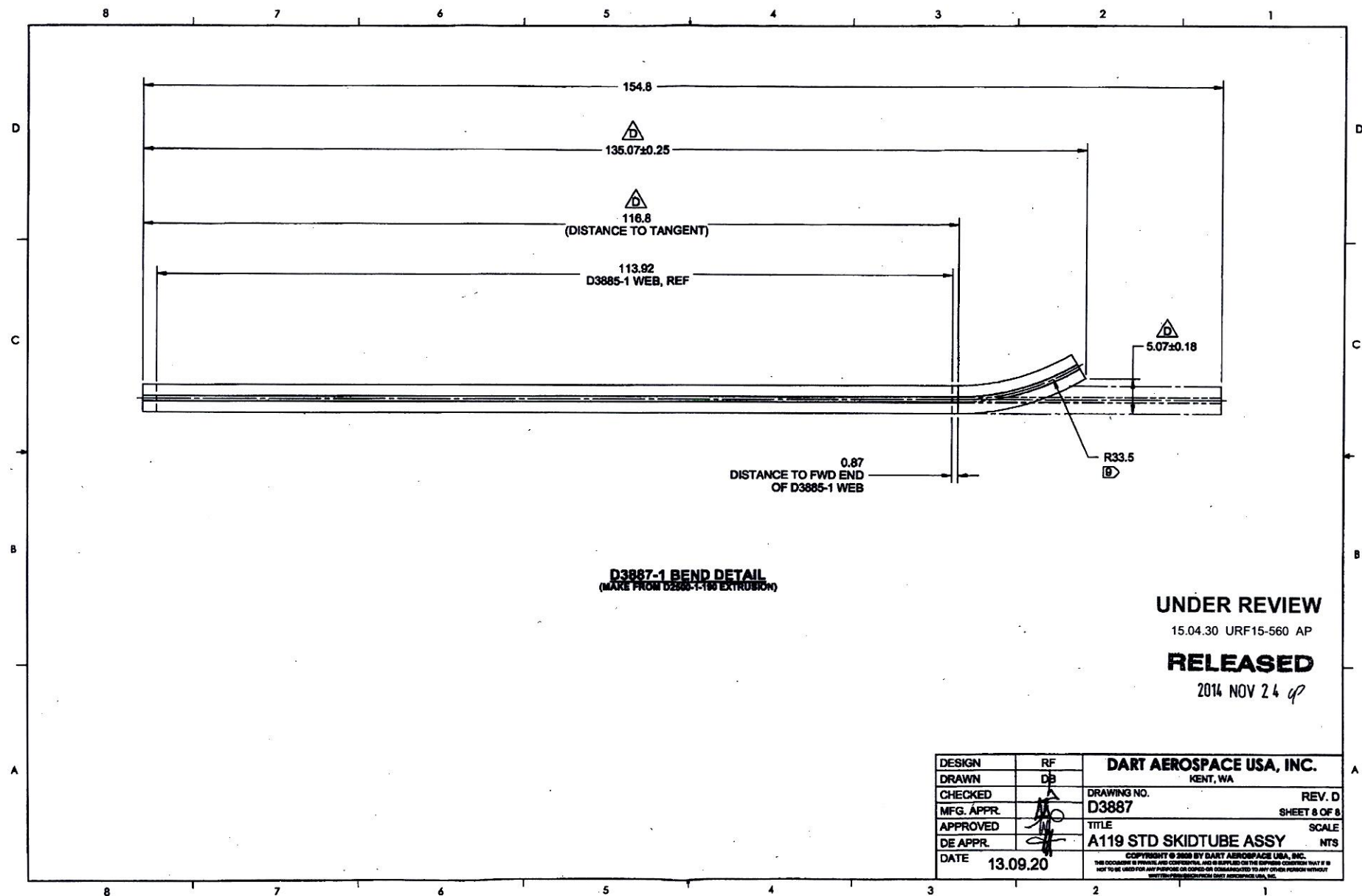
UNDER REVIEW

15.04.30 URF15-560 AP

RELEASED

2014 NOV 24 *qp*

DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	DB	KENT, WA	
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D3887	SHEET 7 OF 8
APPROVED		TITLE	SCALE
DE APPR.		A119 STD SKIDTUBE ASSY	NTS
DATE	13.09.20	COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMING OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	



DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☒

Work Order: <u>158278</u> Part No. <u>D119-646-041</u> NCR No. _____		DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☒</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☒	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																											
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☒																																																																																
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																																																																																
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																																																																																
Large Fab ☐	Composite ☐	Supplier ☐																																																																																	
Date: <u>16/5/16</u>		Step #: <u>200</u>		QTY Effective : _____		MRB (QSI042) Approval DAS 12 17/3/17 9-99																																																																													
Description Work Order Deviation No powder coat on saddle region per customer request.				Disposition Acceptable per attached Masking instructions				Completed By <u>1704-4</u>																																																																											
				Lead hand / Supervisor Approval Verification																																																																															
				QC / QA Coordinator Approval																																																																															
Root Cause <table style="width:100%;"> <tr><td>Environment</td><td>☐</td><td>No Re-verification</td></tr> <tr><td>Design</td><td>☐</td><td>Operator</td></tr> <tr><td>Doc/Data</td><td>☐</td><td>Offset/Setup</td></tr> <tr><td>Equip/Tooling</td><td>☐</td><td>Supplier</td></tr> <tr><td>Handling/Pre</td><td>☐</td><td>Training</td></tr> <tr><td>Material</td><td>☐</td><td>Use for Testing</td></tr> <tr><td>Internal Transport</td><td>☐</td><td>Poor Information</td></tr> <tr><td>Tribal Knowledge</td><td>☐</td><td>Rushing</td></tr> <tr><td>LOA</td><td>☐</td><td>Product Improvement</td></tr> <tr><td>Substation</td><td>☐</td><td>Process Improvement</td></tr> <tr><td>Past Expiry Date</td><td>☐</td><td>Manufacturing Process</td></tr> <tr><td>Misidentified</td><td>☐</td><td>Past Due</td></tr> </table>		Environment	☐	No Re-verification	Design	☐	Operator	Doc/Data	☐	Offset/Setup	Equip/Tooling	☐	Supplier	Handling/Pre	☐	Training	Material	☐	Use for Testing	Internal Transport	☐	Poor Information	Tribal Knowledge	☐	Rushing	LOA	☐	Product Improvement	Substation	☐	Process Improvement	Past Expiry Date	☐	Manufacturing Process	Misidentified	☐	Past Due	FAULT CATEGORY <table style="width:100%;"> <tr> <td>Pressure/Forced</td> <td>Temperature/Cure</td> <td>Power Loss/Surge</td> <td>Positioned Wrong</td> </tr> <tr> <td>Bending</td> <td>Set-up</td> <td>Folio/Program</td> <td>Outside Dimensions</td> </tr> <tr> <td>Centre Not Concentric</td> <td>BOM/Route</td> <td>Grain</td> <td>Over/Under tolerance</td> </tr> <tr> <td>Cracks</td> <td>Broken/Damage/Defect</td> <td>Weld</td> <td>Part Incorrect</td> </tr> <tr> <td>Crimp/Kink/Ripple/Wave</td> <td>Inspection Incomplete/Unqualified</td> <td>Wrong Stock Pulled</td> <td>Part Lost/Missing</td> </tr> <tr> <td>Cuffs</td> <td>Contamination</td> <td>Out of Sequence</td> <td>Part Moved</td> </tr> <tr> <td>Crushing</td> <td>Countersink</td> <td>Off-set</td> <td>Drawing</td> </tr> <tr> <td>Heat Treat</td> <td>Cut Too Short</td> <td>Mislabeled</td> <td>Finish</td> </tr> <tr> <td>Wave/Twist in Tube</td> <td>Instructions Incomplete/Unclear</td> <td>Fit/Function</td> <td>Misread</td> </tr> <tr> <td>Marks/Chatter</td> <td>Drill Holes</td> <td>Misaligned/off center</td> <td>Turning Sequence</td> </tr> </table>						Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong	Bending	Set-up	Folio/Program	Outside Dimensions	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance	Cracks	Broken/Damage/Defect	Weld	Part Incorrect	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing	Cuffs	Contamination	Out of Sequence	Part Moved	Crushing	Countersink	Off-set	Drawing	Heat Treat	Cut Too Short	Mislabeled	Finish	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence
Environment	☐	No Re-verification																																																																																	
Design	☐	Operator																																																																																	
Doc/Data	☐	Offset/Setup																																																																																	
Equip/Tooling	☐	Supplier																																																																																	
Handling/Pre	☐	Training																																																																																	
Material	☐	Use for Testing																																																																																	
Internal Transport	☐	Poor Information																																																																																	
Tribal Knowledge	☐	Rushing																																																																																	
LOA	☐	Product Improvement																																																																																	
Substation	☐	Process Improvement																																																																																	
Past Expiry Date	☐	Manufacturing Process																																																																																	
Misidentified	☐	Past Due																																																																																	
Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong																																																																																
Bending	Set-up	Folio/Program	Outside Dimensions																																																																																
Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance																																																																																
Cracks	Broken/Damage/Defect	Weld	Part Incorrect																																																																																
Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing																																																																																
Cuffs	Contamination	Out of Sequence	Part Moved																																																																																
Crushing	Countersink	Off-set	Drawing																																																																																
Heat Treat	Cut Too Short	Mislabeled	Finish																																																																																
Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread																																																																																
Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence																																																																																
		☒ OTHER : <u>Customer</u>																																																																																	

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☒

Work Order: <u>158278</u> Part No. <u>D119-646-041</u> NCR No. _____		DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☒ Quality ☐ Other ☐					
Date: <u>16/3/16</u>		Step #: <u>240</u>		QTY Effective : _____			MRB (QSI042) Approval DAS 12 17/3/17 9-89		
Description Work Order Deviation Plug unused holes with AN3C4A Bolts rather than AN3CSA Bolts.				Disposition Acceptable AN3C-4A (M137075 (v6))				Completed by <u>17/04/16</u> DAS 15 9-89 Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : _____							

